REMARKS

Claim 1 was amended to clarify the existing relationship between the passive bearing and the damping device separate thereof. No new matter has been added. The clarification is supported by the specification (Figs. 3-5, page 6, lines 13-18). Claim 1, as originally drafted, taught a separate damping device. The amendment merely expressly clarifies the relationship taught in the originally drafted claim. Thus, the amendment does not narrow the scope of protection afforded claim 1 as originally drafted.

Reconsideration of this application is respectfully requested in light of the foregoing amendments and the following remarks.

On page 2 of the Office Action, claims 1-5 were rejected under 35 U.S.C. § 103(a) as being obvious over Nakazeki et al., U.S. Patent No. 4,686,404 ("Nakazeki") in view of Schob et al., U.S. Patent No. 6,249,067 B1 ("Schob"). The Office Action purposes that Nakazeki teaches a rotor spinning device comprising a contactless, passive, radial bearing and a damping device comprising a sensor arrangement, a control arrangement and an operating arrangement, the operating arrangement having at least two stationary magnetic operating elements arranged to act at least at one active site directly on a magnetic element fixed connected with the rotor shaft. The Office Action continues by noting that Nakazeki does not disclose a rotating magnetic element comprising an operative element of the passive bearing but that Schob does show such an element. The Office Action concludes that it would have been obvious to include the rotating magnetic element as taught by Schob with Nakazeki to achieve the present invention. Applicant respectfully traverses the rejection for the reasons discussed below.

The present invention is a rotor spinning device that comprises a contactless, passive radial bearing for seating a spinning rotor shaft, and a damping device for damping radially

directed oscillations of the spinning rotor shaft. The passive radial bearing comprises a magnetic element fixed connected with the rotor shaft, which is rotated as the rotor shaft rotates (Fig. 3, reference 8; page 6, lines 13-15), and a stationary permanent magnet disposed in magnetic proximity to the rotating magnetic element for seating the spinning rotor shaft (Fig. 3, reference 19; page 6, lines 15-17). The passive radial bearing is so called because neither the stationary magnet nor the rotating magnetic element are actively controlled. The damping device, separate from the passive radial bearing (Figs. 3, 4, 5; page 6, lines 17-31), comprises a sensor arrangement, a control arrangement, and an operating arrangement. The operating arrangement comprises at least two stationary magnetic operating elements that are arranged to act directly on the rotating magnetic element of the passive radial bearing at at least one active site.

Nakazeki teaches a radial magnetic bearing device that is actively controlled to control shaft displacement due to precession (col. 1, lines 49-53, claim 1). The radial bearing in Nakazeki contains only the stationary magnetic portion (the rotating magnetic element is eliminated in favor of a magnetizable shaft) (col. 3, lines 6-11). The displacement of the shaft is measured and the output of the electromagnets of the stationary magnetic portion is adjusted to prevent the precession of the shaft (col. 3, lines 21-27, col. 4, lines 59-60). Nakazeki does not teach a passive radial bearing, nor does Nakazeki teach a damping device separate from the actively controlled radial bearing disclosed in Nakazeki. Indeed, because the radial bearing in Nakazeki is actively controlled, there is no need for a damping device separate from the radial bearing.

Schob teaches a method and sensors for determining the radial position of the magnetic rotor of a bearing-free motor (col. 2, lines 44-51). A bearing-free motor comprises a permanent magnetically excited rotor and a stator, with the rotor being supported by magnetic force (col. 1,

lines 16-20). The bearing-free motor owes its name to the lack of a separate bearing for supporting the rotor (col. 1, lines 20-22). Because the rotor and stator serve as both a motor and a bearing, the rotor and stator are actively controlled (col. 1, lines 22-33). Schob expressly teaches actively controlling the rotor with respect to the rotation about the axis of rotation and the radial position in the plane perpendicular to the axis of rotation (col. 1, lines 33-38). The method of determining the radial position of the rotor may be used to regulate the radial position, but no such regulation device is taught by Schob (col. 6, lines 59-67). As with Nakazeki, Schob does not teach a passive radial bearing, or a damping device separate from the actively controlled radial bearing disclosed therein. Indeed, because the rotor in Schob is actively controlled, there is no need for a damping device separate from the bearing-free motor.

When establishing an obviousness rejection, the following criteria must be met: 1) there must be some suggestion or motivation, in the prior art or in the knowledge generally available to one with ordinary skill in the art, to modify the prior art or combine the prior art references; 2) there must be a reasonable expectation of success in modifying the prior art; and 3) the prior art must teach or suggest all of the claimed elements. In re Vaeck, 947 F.2d 448 (Fed. Cir. 1991). Furthermore, prior art references must be considered in their entirety. W.L. Gore & Assocs. v. Garlock, Inc., 220 USPQ 303 (Fed. Cir. 1983), cert. denied 469 U.S. 851 (1984). Taking the above criteria individually, it becomes clear that the references cited in the Office Action cannot render the present invention obvious.

With regard to the first criterion, Applicant submits that Nakazeki and Schob, alone or in combination, do not suggest or motivate one of ordinary skill in the art to combine the references or modify Nakazeki (as purposed by the Office Action) to achieve the present invention. Both Nakazeki and Schob teach actively controlled radial magnetic bearings whereas the present

invention relates to a passive radial magnetic bearing with a secondary damping device for damping the radial oscillations of the spinning rotor shaft. Taking Schob only for the existence of a rotor (as does the Office Action) and modifying Nakazeki thusly does not create the present invention because such a modification does not eliminate the fatal deficiency of Nakazeki and Schob – the active control of the rotor position by the stator (stationary magnetic element). Neither Nakazeki nor Schob suggest the use of a separate damping device nor can any combination of Nakazeki and Schob provide such a suggestion. Thus, Applicant respectfully submits that the cited references fail to satisfy the first criterion for finding obviousness.

To satisfy the second criterion, the cited references must provide a reasonable expectation of successfully combining or modifying to achieve the present invention. Applicant submits that neither Nakazeki, Schob or a combination thereof provides any expectation, reasonable or otherwise, of successfully creating the present invention. Specifically, any combination of the references result only in a radial bearing, comprising a rotor and a stator, wherein the position of the rotor is actively controlled by adjusting the output of the electromagnets of the stator. In contrast, the radial bearing of the present invention is passive – the stator does not control the position of the rotor. The present invention teaches a separate damping device for damping the radial oscillations of the spinning rotor shaft. Thus, Applicant respectfully submits that the cited references fail to satisfy the second criterion for finding obviousness.

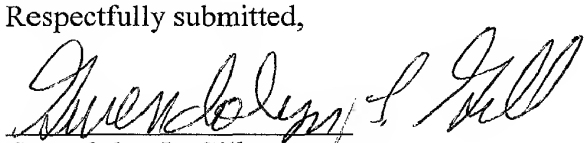
Finally, regarding the third criterion, Applicant submits that Nakazeki and Schob fail to teach each and every element of the present invention. Specifically, the references fail to teach a passive radial magnetic bearing or the use of a damping device external of the passive radial bearing. Thus, Applicant submits that the references fail to satisfy the third criterion for finding obviousness.

To establish obviousness, the cited references must satisfy three criteria. As discussed above, Nakazeki and Schob, alone or in combination, fail to satisfy these criteria. Thus, Applicant submits that the cited references cannot render the present invention obvious. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

Regarding the rejections of claim 2-7 under 35 U.S.C. 103(a) based, wholly or in part, on Nakazeki and Schob, Applicant submits that claim 1 is patentable and thus, claims depending from claim 1 are patentable. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections.

In view of the foregoing, it is respectfully urged that the present claims are in condition for allowance. An early notice to this effect is earnestly solicited. Should there be any questions regarding this application, the Examiner is invited to contact the undersigned at the number shown below.

Respectfully submitted,



Gwendolyn L. Gill
Registration No. 46,214
Kennedy Covington Lobdell
& Hickman, L.L.P.
Bank of America Corporate Center
100 N. Tryon Street, Suite 4200
Charlotte, North Carolina 28202-4006
Telephone (704) 331-7569
-- Attorney for Applicant